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REQUEST FOR PROPOSALS (RFP)

 # 2 – HVAC Roof Top Units

Group Health Cooperative of South Central Wisconsin ("GHC-SCW") has hired **Iconica, Inc. ("Iconica")** as their Architect, Engineer and Construction Manager and is seeking proposals from qualified contractor/vendors to assist with repair and/or mitigation of GHC-SCW's Sauk Trails Clinic damaged as a result of the August – September 2018 floods.

GHC-SCW and Iconica will select the qualified firm(s) that is best suited to support and represent GHC-SCW in accordance with the criterion outlined below.

Please submit your Proposals to Iconica, Inc. **via email** no later than **March 15, 2019, at 12:00 p.m. Central Standard Time (CST),** to Zain Heitz at zain.heitz@iconicacreates.com.

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List of Attachments

1. INTRODUCTION AND INFORMATION

1.1 General

It is the intent of Group Health Cooperative of South Central Wisconsin ("GHC-SCW") to contract with a contractor/vendor, hereafter referred to as the "Contractor", to furnish all materials, equipment and labor for its Sauk Trails Clinic Project (hereinafter the "Project"). All Contractors are responsible for any addendums issued for this Project.

1.2 Project Timeline

RFP Posted	2/26/19
All Questions Due to Iconica	3/11/19 by 10:00 am
All Questions Answered by Iconica	3/13/19 by 2:00 pm
RFP Responses Due from Contractors	3/15/19 by 12:00 pm
GHC-SCW Selection of Contractor (tentative)	3/22/19

1.3 Pre-Proposal and Site Inspection Meeting

If desired, request date and time through Iconica by contacting Zain Heitz at zain.heitz@iconicacreates.com.

1.4 Selection Criteria

Selection based on qualified, responsible and responsive proposer.

1.5 Proposal Questions

All questions related to this RFP must be in writing and received by Zain Heitz, Project Manager, no later than 3/11/19 by 10:00 am. Email questions to zain.heitz@iconicacreates.com. Phone call and faxed questions will not be accepted.

Answers to all written questions will be re-issued in the form of an addendum and entered on the GHC-SCW website, on 3/13/19 by 2:00 pm. It is the responsibility of all interested Contractors to access the web site for this information.

1.6 Project Changes

GHC-SCW reserves the right to make changes to this Project. Any changes in the scope of work shall be mutually agreed upon by the GHC-SCW and the Contractor.

1.7 Project Representative

Contractor shall provide a Project Representative who will act as a single point of contact for GHC-SCW.

1.8 Guarantees and Warranties

Guarantees and warranties on workmanship and materials shall be stated in your proposal.

1.9 Proposal and Performance/Payment Bonds

Bid, Performance, and Payment Bonds are not required for this solicitation due the lack of construction services being provided. Additional bonding requirements may be introduced at the time of contracting dependent on the proposed schedule of payment relative to the status of equipment delivery.

1.10 State of Wisconsin Requirements

This contract shall be subject to the laws of the State of Wisconsin. In connection with the performance of work under this contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined in Wis. Stat. § 51.01(5), Stats., sexual orientation as defined in Wis. Stat. § 111.32(13m), or national origin.

1.11 Contractor Verification Prior to Award

Contractor's financial solvency may be verified through financial background checks prior to contract award. GHC-SCW reserves the right to reject RFPs based on information obtained through these background checks if it's deemed to be in the best interest of GHC-SCW.

1.12 Insurance Requirements

Any issue of insurance and/or equipment warranty shall be introduced at the time of contracting.

1.13 Additional Contract Clauses

Contractor shall be responsible for adhering to the additional clauses outline in Appendix E, as applicable to the scope of work.

1.14 Other

1.14.1 All work shall conform to all applicable Industry, Federal, State and Local Laws, Codes, Ordinances, OSHA requirements and Standards.

1.14.2 Site protection/cleanup: Contractor is responsible for the proper handling of materials to include discard of debris and keeping the work site clean. Any cutting of sidewalks or parking areas must be patched accordingly. Contractor is responsible for restoring any ground or landscaping disruption due to construction of this Project.

1.14.3 All Contractors performing work are required to have a Contractor's License for the State of Wisconsin. All Licenses for any contractors must be current on the day of bidding and throughout the length of the Project.

1.14.4 All Contractors must indicate in their proposals if they intend to apply for any rebate incentives from Focus on Energy related to this Project.

1.14.5 Rejection of proposals: GHC-SCW reserves the right to accept or reject any or all proposals and to waive any informality in proposals.

2. STATEMENT OF WORK AND REQUIRED SUBMITTALS

2.1 Scope of Work

See Attachment A for the Project's Scope of Work.

2.2 Submittal Requirements

2.2.1 General Submittal: Contractors shall submit one electronic copy of their proposal to Zain Heitz at zain.heitz@iconicacreates.com by the deadline stated above.

2.2.2 Valuation of Submittal: GHC-SCW will base its scoring of proposals on the following Score Card criteria:

Factors	Weight/Pts
Contractor Qualifications and Experience	0-20 pts
Conformance with Scope of Work and specifications	0-25 pts
Pricing in response to Attachment A	0-25 pts
Material and Shop Drawing Lead Times	0-25 pts
Minority, women-owned and other small business participation	0-5 pts

Required Documentation

i. *Main Proposal*:

- Letter of Interest: Provide a letter of interest from a duly authorized representative confirming the Contractor's active business status and authority to conduct work in the State of Wisconsin. Provide point of contact information for the Contractor's proposal.

- Contractor Qualification and Experience: Provide a brief history of the company's formation. Provide project specific experience completed by the Contractor similar to the scope of work described in Attachment A.

- Key Personnel: Provide a brief explanation of Contractor's key personnel and make up of team that will be responsible for this Project.

- Federal Grant Program Experience: Provide brief history of the Contractor's experience constructing projects in accordance with disaster recovery funding requirements.

- Small Business Participation: Provide certification as a minority, woman-owned, or other government certified small business. If inapplicable, provide a brief explanation of how Contractor intends on soliciting small business participation to help meet the needs of this scope of work – if needed.

ii. *Additional Documents*:

- Attachment A (Scope of Work & Pricing Schedule) – Provide a pricing quote for all items listed.

- Attachment C (Addendum Receipts) – Submit a signed copy of Attachment C if any addendums are issued to this RFP.

- Licenses and Certifications – Provide required licenses and certifications necessary to complete the scope of work.

ATTACHMENT A – Scope of Work and Pricing Sheet

RFP 2 – HVAC Roof Top Units

Provide equipment per plan, specs and equipment list.

GHC is a non-profit organization, all materials will be tax-exempt.

Provide a separate detailed cost breakdown sheet.

Include delivery to site, 8202 Excelsior Drive, Madison, WI 53717.

Exclude unloading and installation costs.

Materials :_____

Delivery:_____

Total:_____

SECTION 237416.11 - PACKAGED, SMALL-CAPACITY, ROOFTOP AIR-CONDITIONING UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes packaged, small-capacity, rooftop air-conditioning units (RTUs) with the following components:

1. Casings.
2. Fans, drives, and motors.
3. Coils.
4. Refrigerant circuit components.
5. Air filtration.
6. Gas furnaces.
7. Dampers.
8. Electrical power connections.
9. Controls.
10. Isolation Rails.
11. Accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of RTU.

B. Sustainable Design Submittals:

1. Product Data: For refrigerants, indicating compliance with refrigerant management practices.

C. Shop Drawings: For each packaged, small-capacity, rooftop air-conditioning unit.

1. Include plans, elevations, sections, and [mounting] details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

1.3 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For manufacturer's warranty.

B. Source quality-control reports.

C. System startup reports.

D. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For RTUs to include in emergency, operation, and maintenance manuals.

1.5 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of outdoor, semi-custom, air-handling unit that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five year(s) from date of Substantial Completion.
2. Warranty Period for Heat Exchangers: Manufacturer's standard, but not less than 10 years from date of Substantial Completion

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of RTUs and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE 15 Compliance: For refrigeration system safety.

E. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

F. UL Compliance: Comply with UL 1995.

G. IECC 2015 Compliance: Applicable requirements in IECC 2015, Commercial Energy Efficiency.

2.2 CAPACITIES AND CHARACTERISTICS

A. Supply-Air Fan:

1. Fan Type: Belt driven, double width, forward curved or backward inclined, centrifugal.
2. Fan Type: Double width, forward curved, centrifugal.
3. Airflow: See attached schedule.
4. External Static Pressure: See attached schedule.
5. Fan Speed: Variable.
6. Enclosure Type: Open, drip-proof.
7. Enclosure Materials: Cast iron.

8. Motor Characteristics:

    a. Horsepower: See attached schedule.
    b. Motor Speed: Multispeed with variable frequency drive or ECM.
    c. Volts: 460 V.
    d. Phase: Poly.
    e. Hertz: 60.

B. Relief (Exhaust)-Air Fan:

1. Airflow: See attached schedule.
2. External Static Pressure: See attached schedule.
3. Fan Speed: Variable, See attached schedule.
4. Enclosure Type: Totally enclosed, fan cooled.
5. Enclosure Materials: Cast iron.

C. Supply-Air Refrigerant Coil:

1. See attached schedule.

D. Outdoor-Air Refrigerant Coil:

1. Ambient-Air Temperature: 95 deg F.

E. Compressors:

1. Number of Refrigerant Circuits: Two minimum on 40 ton units.
2. Compressor: Variable speed or variable capacity digital scroll.

F. Gas Furnace:

1. See attached schedule.
2. Gas Control Valve: Multi-stage or Modulating.
    a. Minimum turndown: 5 to 1.

G. Dampers:

1. Outdoor air damper shall meet the requirements of the 2015 IECC C403.2.4.3 Shutoff Dampers.
2. Outdoor- and Return-Air Mixing Dampers: Parallel-blade galvanized-steel dampers mechanically fastened to cadmium plated for galvanized-steel operating rod in reinforced cabinet. Connect operating rods with common linkage or gears and interconnect so dampers operate simultaneously.
3. Relief-Air Damper: Gravity actuated or motorized, as required by ASHRAE/IES 90.1.

H. Recirculating-Air Filters:

1. Type: Pleated Throwaway.
2. Depth: 4".
3. Access Location: Side.

4. Maximum or Rated Face Velocity: 500 fpm.
5. Initial Resistance: 0.5 inch wg.
6. Recommended Final Resistance: 1 inch wg.
7. Minimum Efficiency Reporting Value:
    a. MERV Rating: MERV 13, according to ASHRAE 52.2.

I. Vibration Isolation Devices: Full perimeter vibration isolation rails suitable for mounting on structural steel frame, with 1 inch minimum deflection.

J. Electrical Characteristics for Single-Point Connection:

1. Voltage: 460 V.
2. Phase: Poly.
3. Hertz: 60.
4. Maximum Overcurrent Protection: See attached schedule .

2.3 MANUFACTURERS

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

2.4 UNIT CASINGS

A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed.

B. Double-Wall Construction:

1. Outside Casing Wall: Galvanized steel, minimum 18 gauge thick with manufacturer's standard finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.
2. Inside Casing Wall: G90-coated galvanized steel, 0.028 inch thick.
3. Floor Plate: G90 galvanized steel, minimum 18 gauge thick.
4. Casing Insulation:
    a. Materials:
        1) Injected polyurethane foam insulation.
        2) 1.5 lb density, fiberglass insulation.
    b. Casing Panel (including floor and roof) R-Value: Minimum R4.
    c. Minimum Insulation Thickness: 1 inch.
    d. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roof of unit.

C. Airstream Surfaces: Surfaces in contact with airstream shall comply with requirements in ASHRAE 62.1.

D. Static-Pressure Classifications:

1. For Unit Sections Upstream of Fans: Minus 3-inch wg.
2. For Unit Sections downstream and including Fans: 3-inch wg.

E. Panels and Doors:

1. Access Doors:

a. Hinges: A minimum of two ball-bearing hinges or stainless-steel piano hinge and two wedge-lever-type latches, operable from inside and outside. Arrange doors to be opened against air-pressure differential.
b. Gasket: Neoprene, applied around entire perimeters of panel frames.
c. Size: Large enough to allow inspection and maintenance of air-handling unit's internal components.

2. Locations and Applications:

a. Fan Section: Doors.
b. Access Section: Doors.
c. Coil Section: Inspection and access panels.
d. Damper Section: Doors.
e. Filter Section: Doors large enough to allow periodic removal and installation of filters.
f. Mixing Section: Doors.

F. Condensate Drain Pans:

1. Location: Each type of cooling coil.
2. Construction:

a. Single-wall, stainless steel sheet.

3. Drain Connection:

a. Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on one end of pan.
b. Minimum Connection Size: NPS 1.

4. Slope: Minimum 0.125-in./ft. slope, to comply with ASHRAE 62.1, in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and from humidifiers and to direct water toward drain connection.
5. Length: Extend drain pan downstream from leaving face for distance to comply with ASHRAE 62.1.
6. Width: Entire width of water producing device.

7. Depth: A minimum of 2 inches deep.
8. Units with stacked coils shall have an intermediate drain pan to collect condensate from top coil.

2.5 FANS, DRIVES, AND MOTORS

A. Fan and Drive Assemblies: Statically and dynamically balanced and designed for continuous operation at maximum-rated fan speed and motor horsepower.

B. Supply-Air Fans: Centrifugal, rated according to AMCA 210; galvanized or painted steel; mounted on solid-steel shaft.

1. Shafts: With field-adjustable alignment.

a. Turned, ground, and polished hot-rolled steel with keyway.

2. Shaft Bearings:

a. Heavy-duty, self-aligning, pillow-block type with an L-50 rated life of minimum 100,000 hours according to ABMA 9.

3. Housings: Formed- and reinforced-steel panels to form curved scroll housings with shaped cutoff and spun-metal inlet bell.

a. Bracing: Steel angle or channel supports for mounting and supporting fan scroll, wheel, motor, and accessories.

4. Centrifugal Fan Wheels: Inlet flange, backplate, and shallow blades with inlet and tip curved forward in direction of airflow and mechanically fastened to flange and backplate; steel or aluminum hub swaged to backplate and fastened to shaft with setscrews.
5. Mounting: For internal vibration isolation. Factory-mount fans with manufacturer's standard vibration isolation mounting devices having a minimum static deflection of 1 inch.
6. Shaft Lubrication Lines: Extended to a location outside the casing.
7. Flexible Connector: Factory fabricated with a fabric strip minimum 3-1/2 inches wide, attached to two strips of minimum 2-3/4-inch-wide by 0.028-inch- thick, galvanized-steel sheet.

a. Flexible Connector Fabric: Glass fabric, double coated with neoprene. Fabrics, coatings, and adhesives shall comply with UL 181, Class 1.

C. Drives, Direct: Factory-mounted, direct drive.

D. Drives, Belt: Factory-mounted, V-belt drive, with adjustable alignment and belt tensioning, and with 1.5 service factor based on fan motor.

1. Pulleys: Cast iron or cast steel with split, tapered bushing, dynamically balanced at the factory.
2. Belts: Oil resistant, non-sparking and non-static; in matched sets for multiple-belt drives.

3. Belt Guards: Comply with requirements specified by OSHA and fabricate according to SMACNA's "HVAC Duct Construction Standards"; 0.146-inch-thick, 3/4-inch diamond-mesh wire screen, welded to steel angle frame; prime coated.

E. Condenser-Coil Fan: Variable-speed propeller, mounted on shaft of permanently lubricated multispeed or ECM motors.

F. Relief-Air Fan: Variable speed, Forward curved, shaft mounted on permanently lubricated motor.

G. Motors:

1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
2. Enclosure Type: Open, drip-proof .
3. Enclosure Materials: Cast iron.
4. Motor Bearings: ball.
5. Efficiency: Premium efficient as defined in NEMA MG 1 or meeting requirements as established by Energy Independence and Security Act (EISA) 2007.
6. Motor Pulleys: Adjustable pitch for use with 5-hp motors and smaller; fixed pitch for use with motors larger than 5 hp. Select pulley size so pitch adjustment is at the middle of adjustment range at fan design conditions.
7. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.

2.6 COILS

A. General Requirements for Coils:

1. Comply with AHRI 410.
2. Fabricate coils section to allow for removal and replacement of coil for maintenance and to allow in-place access for service and maintenance of coil(s).
3. Coils shall not act as structural component of unit.

B. Supply-Air Refrigerant Coil:

1. Tub & Fin or Microchannel Design.
   a. Tubes: Copper.
   b. Fins:
      1) Material: Aluminum.
      2) Fin Spacing: Maximum 15 fins per inch.
   c. Fin and Tube Joints: Mechanical bond.
   d. Headers: Seamless-copper headers with brazed connections.
   e. Frames: Galvanized steel or Stainless steel.
   f. Ratings: Designed, tested, and rated according to ASHRAE 33 and AHRI 410.

1) Working Pressure: Minimum 300 psig.

C. Outdoor-Air Refrigerant Coil:

1. Tube and Fin or Microchannel.
   a. Tubes: Copper.
   b. Fins:
      1) Material: Aluminum.
      2) Fin Spacing: Maximum 10 fins per inch.
   c. Microchannel: Aluminum.
   d. Fin and Tube Joints: Mechanical bond.
   e. Headers: Seamless-copper headers with brazed connections.
   f. Frames: Galvanized steel or Stainless steel.
   g. Ratings: Designed, tested, and rated according to ASHRAE 33 and AHRI 410.
      1) Working Pressure: Minimum 300 psig.

2.7 REFRIGERANT CIRCUIT COMPONENTS

A. Compressor: Hermetic, variable-speed scroll, mounted on vibration isolators; with internal overcurrent and high-temperature protection, internal pressure relief, and crankcase heater.

B. Refrigeration Specialties:

1. Refrigerant: R-410A.
2. Expansion valve with replaceable thermostatic element.
3. Refrigerant filter/dryer.
4. Manual-reset high-pressure safety switch.
5. Automatic-reset low-pressure safety switch.
6. Minimum off-time relay.
7. Automatic-reset compressor motor thermal overload.
8. Brass service valves installed in compressor suction and liquid lines.
9. Four-way reversing valve with a replaceable magnetic coil, thermostatic expansion valves with bypass check valves, and a suction line accumulator.

2.8 AIR FILTRATION

A. Panel Filters:

1. Description: Pleated factory-fabricated, self-supported, disposable air filters with holding frames.
2. Filter Unit Class: UL 900.
3. Media: Interlaced glass, synthetic or cotton fibers coated with nonflammable adhesive and antimicrobial coating.
4. Filter-Media Frame: Beverage board with perforated metal retainer, or metal grid, on outlet side.

B. Adhesive, Sustainability Projects: As recommended by air-filter manufacturer and with a VOC content of 80 g/L or less.

2.9 GAS FURNACES

A. Description: Factory assembled, piped, and wired; complying with ANSI Z21.47/CSA 2.3 and NFPA 54.

B. CSA Approval: Designed and certified by and bearing label of CSA.

C. Burners: Stainless steel.

1. Rated Minimum Turndown Ratio: 5 to 1.
2. Fuel: Natural gas.
3. Ignition: Electronically controlled electric spark or hot-surface igniter with flame sensor.
4. Gas Control Valve: Multi stage or Modulating.
5. Gas Train: Single-body, regulated, redundant, 24-V ac gas valve assembly containing pilot solenoid valve, pilot filter, pressure regulator, pilot shutoff, and manual shutoff.

D. Heat-Exchanger and Drain Pan: Stainless steel.

E. Venting, Power: Power vented, with integral, motorized centrifugal fan interlocked with gas valve with vertical extension where required to meet code.

F. Safety Controls:

1. Gas Manifold: Safety switches and controls complying with ANSI standards.

2.10 DAMPERS

A. Outdoor- and Return-Air Dampers: Low-leakage, double-skin, airfoil-blade, galvanized-steel or aluminum dampers with compressible jamb seals and extruded-vinyl blade edge seals in opposed-blade arrangement with zinc-plated steel operating rods rotating in sintered bronze or nylon bearings mounted in a single galvanized-steel frame, and with operating rods connected with a common linkage. Leakage rate shall not exceed 4 cfm/sq. ft. at 1-inch wg, rated in accordance with AMCA 500D.

B. Electronic Damper Operators:

1. Direct-coupled type designed for minimum 60,000 full-stroke cycles at rated torque.
2. Electronic damper position indicator shall have visual scale indicating percent of travel and 0- to 10-V dc, feedback signal.
3. Operator Motors:
   a. Size to operate with sufficient reserve power to provide smooth modulating action or two-position action.
   b. Permanent Split-Capacitor or Shaded-Pole Type: Gear trains completely oil immersed and sealed. Equip spring-return motors with integral spiral-spring mechanism in housings designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.

4. Non-spring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running torque of 150 in. x lbf and breakaway torque of 300 in. x lbf.
5. Spring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running and breakaway torque of 150 in. x lbf.
6. Size dampers for running torque calculated as follows:

    a. Parallel-Blade Damper with Edge Seals: 7 inch-lb/sq. ft. of damper.
    b. Opposed-Blade Damper with Edge Seals: 5 inch-lb/sq. ft. of damper.
    c. Parallel-Blade Damper without Edge Seals: 4 inch-lb/sq. ft of damper.
    d. Opposed-Blade Damper without Edge Seals: 3 inch-lb/sq. ft. of damper.
    e. Dampers with 2- to 3-Inch wg of Pressure Drop or Face Velocities of 1000 to 2500 fpm: Increase running torque by 1.5.
    f. Dampers with 3- to 4-Inch wg of Pressure Drop or Face Velocities of 2500 to 3000 fpm: Increase running torque by 2.0.

7. Coupling: V-bolt and V-shaped, toothed cradle.
8. Overload Protection: Electronic overload or digital rotation-sensing circuitry.
9. Fail-Safe Operation: Mechanical, spring-return mechanism with external, manual gear release on non-spring-return actuators.
10. Power Requirements (Two-Position Spring Return): 120 V ac.
11. Power Requirements (Modulating): Maximum 10 VA at 24 V ac or 8 W at 24 V dc.
12. Proportional Signal: 0 to 10 V dc or 4 to 20 mA, and 0- to 10-V dc position feedback signal.
13. Temperature Rating: Minus 22 to plus 122 deg F.
14. Run Time: 12 seconds open, 5 seconds closed.

2.11 ELECTRICAL POWER CONNECTIONS

A. RTU shall have a single connection of power to unit with unit-mounted disconnect switch accessible from outside unit and control-circuit transformer with built-in overcurrent protection.

2.12 CONTROLS

A. Basic Unit Controls:

1. Control-voltage transformer.

2. Loose sensors supplied and installed by Temperature Controls Contractor.

B. DDC Controller:

1. Controller shall have volatile-memory backup.

2. Safety Control Operation:

    a. Smoke Detectors: Stop fan and close outdoor-air damper if smoke is detected. Provide additional contacts for alarm interface to fire-alarm control panel.
    b. Fire-Alarm Control Panel and connections by others.
    c. Low-Discharge Temperature: Stop fan and close outdoor-air damper if supply-air temperature is less than 40 deg F.

3. Scheduled Operation: Occupied and unoccupied periods on seven-day clock with a minimum of four programmable periods per day.
4. Unoccupied Period:

    a. Heating Setback: 3 deg F.
    b. Cooling Setback: 3deg F.
    c. Override Operation: Two hours.

5. Supply Fan Operation:

    a. Occupied Periods: Run fan continuously.
    b. Unoccupied Periods: Cycle fan to maintain setback temperature.

6. Refrigerant Circuit Operation:

    a. Occupied Periods: Cycle or stage compressors to match compressor output to cooling load to maintain discharge temperature and humidity. Cycle condenser fans to maintain maximum hot-gas pressure.
    b. Unoccupied Periods: Cycle compressors and condenser fans for cooling to maintain setback temperature and humidity.

7. Gas Furnace Operation:

    a. Occupied Periods: Stage or Modulate burner to maintain discharge temperature.
    b. Unoccupied Periods: Cycle burner to maintain setback temperature.

8. Economizer Outdoor-Air Damper Operation:

    a. Morning warm-up and cool-down cycles.
    b. Occupied Periods: Open to scheduled percent fixed minimum intake, and maximum 100 percent of the fan capacity. Controller shall permit air-side economizer operation when outdoor air is less than 60 deg F. Use outdoor-air enthalpy to adjust mixing dampers. Start/modulate relief-air fan with differential pressure sensor.
    c. Unoccupied Periods: Close outdoor-air damper and open return-air damper.

C. Interface Requirements for HVAC Instrumentation and Control System:

1. Interface relay for scheduled operation.

2. Interface relay to provide indication of fault at the central workstation and diagnostic code storage.
3. Provide BACnet compatible interface for central HVAC control workstation for the following:

    a. Adjusting set points.
    b. Monitoring supply fan start, stop, and operation.
    c. Inquiring data to include outdoor-air damper position, supply- and room-air temperature and humidity.
    d. Monitoring occupied and unoccupied operations.
    e. Monitoring constant and variable motor loads.
    f. Monitoring variable-frequency drive operation.
    g. Monitoring cooling load.
    h. Monitoring economizer cycles.
    i. Monitoring air-distribution static pressure and ventilation air volume.

2.13 ROOF RAILS

A. Rail Dimensions: Height of 8 inches above structural steel frame.

B. Isolation Rails.
1. Provide continuous support for the rooftop equipment.
2. Isolate against casing-radiated vibration in the rooftop equipment housing.
3. Isolate against structure-borne vibration from rotating and mechanical components in the rooftop package.
4. Extruded aluminum top and bottom members connected by spring isolators and a continuous air and water tight seal.
    a. Beaded elastomeric material retained in a keyway along the top extrusion.
    b. Weather-strip sealed along the bottom with an aluminum fascia strip.
5. Spring components shall be 1” deflection, free-standing, unhoused, laterally stable steel springs.
    a. Lateral stiffness greater than 1.0 times the rated vertical stiffness.
    b. Designed for 50% (normalized) overload to solid.

2.14 ACCESSORIES

A. Duplex, 115-V, ground-fault-interrupter outlet with 15-A overcurrent protection. Include transformer if required. Outlet shall be energized even if the unit main disconnect is open.

B. Filter differential pressure switch with sensor tubing on either side of filter. Set for final filter pressure loss.

C. Factory- or field-installed, demand-controlled ventilation.

D. Safeties:

1. Smoke detector.
2. Phase-loss protection.
3. High and low pressure control.

4. Gas furnace airflow-proving switch.

E. Hail guards of galvanized steel, painted to match casing.

F. Outdoor-air intake weather hood.

G. Gas pressure reducing valve suitable for 2 psig inlet pressure.

2.15 MATERIALS

A. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for steel sheet.

B. Stainless Steel:

1. Manufacturer's standard grade for casing.
2. Manufacturer's standard type, ASTM A240/A240M for bare steel exposed to airstream or moisture.

C. Galvanized Steel: ASTM A653/A653M.

D. Aluminum: ASTM B209.

2.16 SOURCE QUALITY CONTROL

A. AHRI Compliance:
1. Comply with AHRI 340/360 for testing and rating energy efficiencies for RTUs.
2. Comply with AHRI 270 for testing and rating sound performance for RTUs.

B. AMCA Compliance:

1. Comply with AMCA 11 and bear the AMCA-Certified Ratings Seal for air and sound performance according to AMCA 211 and AMCA 311.
2. Damper leakage tested according to AMCA 500-D.
3. Operating Limits: Classify according to AMCA 99.

PART 3 - EXECUTION (FOR REFERENCE ONLY)

3.1 INSTALLATION

A. Examine roughing-in for RTUs to verify actual locations of piping and duct connections before equipment installation.

B. Roof Rails: Install on structural frame, level and secure. Secure RTUs to upper rail, and secure rail base to structural steel frame with anchor bolts. Coordinate sizes and locations of rails with actual equipment provided.

3.2 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to RTU, allow space for service and maintenance.

C. Connect piping to unit mounted on vibration isolators with flexible connectors.

D. Connect condensate drain pans using NPS 1-1/4, ASTM B88, Type M copper tubing. Construct deep trap at connection to drain pan and install cleanouts at changes in direction.

E. Gas Piping: Connect gas piping to burner, full size of gas train inlet, and connect with union and shutoff valve with sufficient clearance for burner removal and service.

3.3 DUCT CONNECTIONS

A. Comply with duct installation requirements specified in other HVAC Sections. Drawings indicate general arrangement of ducts. The following are specific connection requirements:

1. Install ducts to termination at top of roof curb.
2. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.
3. Connect supply and return ducts to RTUs with flexible duct connector.
4. Install return-air duct continuously through roof structure.

3.4 ELECTRICAL CONNECTIONS

A. Connect electrical wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs as specified in Section 260553 "Identification for Electrical Systems."
2. Nameplate shall be laminated acrylic or melamine plastic signs as layers of black with engraved white letters at least 1/2 inch high.
3. Locate nameplate where easily visible.

3.5 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring according to Section 260523 "Control-Voltage Electrical Power Cables."

3.6 FIELD QUALITY CONTROL

A. Perform tests and inspections with the assistance of a factory-authorized service representative.

B. Tests and Inspections:

1. After installing RTUs and after electrical circuitry has been energized, test units for compliance with requirements.
2. Inspect for and remove shipping bolts, blocks, and tie-down straps.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. RTU will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain RTUs.

END OF SECTION 237416.11

ROOFTOP UNIT SCHEDULE

Type Mark	Area Served	Nominal Cooling Capacity	Unit Weight (lbs)	Type Comments	Supply Air Flow	Outside Air	Exhaust Air Flow	External Static Pressure	Exhaust External Static Pressure	Economizer Type	Filter Type	Curb Height	Compressor Quantity Minimum	Refrigerant Used	Ambient Temperature	Cooling Entering Dry Bulb Temperature/Cooling Entering Wet Bulb Temperature	Cooling Leaving Dry Bulb Temperature/Cooling Leaving Wet Bulb Temperature	Total Cooling Capacity	Sensible Cooling Capacity	Heating Stages	Max Gas Heating Input	Max Gas Heating Output	Energy Efficiency Rating	Fan Motor HP	Voltage/Phase Value/Frequency	Minimum Circuit Current/MOCP	Comments
RTU-1	1st Floor	40.0 ton	5800	VAV	12000 CFM	1150 CFM	10850 CFM	2.00 in-wg	0.75 in-wg	Low Leak Enthalpy	MERV13	2' - 0"	2	R410A	95 °F	77 °F/65 °F	55 °F/53 °F	413560.0 Btu/h	279650.0 Btu/h	5	400000 Btu/h	324000 Btu/h	10.1	15.0 hp	460 V/3/60 Hz	111 A/125	NOTES: 1-17
RTU-2	2nd Floor	40.0 ton	5800	VAV	12000 CFM	1150 CFM	10850 CFM	2.00 in-wg	0.75 in-wg	Low Leak Enthalpy	MERV13	2' - 0"	2	R410A	95 °F	77 °F/65 °F	55 °F/53 °F	413560.0 Btu/h	279650.0 Btu/h	5	800000 Btu/h	648000 Btu/h	10.1	15.0 hp	460 V/3/60 Hz	111 A/125	NOTES: 1-17
RTU-3	Basement	10.0 ton	1540	VAV	3200 CFM	1040 CFM	2160 CFM	2.00 in-wg	0.75 in-wg	Low Leak Enthalpy	MERV13	2' - 0"	1	R410A	95 °F	77 °F/65 °F	55 °F/52 °F	220410.0 Btu/h	103810.0 Btu/h	2	250000 Btu/h	202500 Btu/h	12.2	2.8 hp	460 V/3/60 Hz	31 A/45	NOTES: 1-16
RTU-4	Basement	10.0 ton	1540	VAV	3200 CFM	715 CFM	2485 CFM	2.00 in-wg	0.75 in-wg	Low Leak Enthalpy	MERV13	2' - 0"	1	R410A	95 °F	77 °F/65 °F	55 °F/52 °F	220410.0 Btu/h	103810.0 Btu/h	2	250000 Btu/h	202500 Btu/h	12.2	2.8 hp	460 V/3/60 Hz	31 A/45	NOTES: 1-16

1. UNIT SHALL MEET THE REQUIREMENTS OF IECC 2015 AS REQUIRED BY THE STATE OF WISCONSIN.
2. PROVIDE POWERED WEATHERPROOF GFIC CONVENIENCE RECEPTACLE.
3. INTEGRAL BREAKER DISCONNECT.
4. NEMA PREMIUM EFFICIENCY MOTORS, VARIABLE SPEED.
5. RETURN DUCT SMOKE DETECTOR .
6. DOWNFLOW.
7. MODULATING POWER EXHAUST. REMOTE MOUNTED BUILDING PRESSURE SENSOR.
8. BUILDING AUTOMATION SYSTEM INTERFACE, BACnet.
9. VAV, DISCHARGE AIR CONTROL.
10. HAIL GUARD.
11. HEATING TO BE MULTISTAGE OR MODULATING, 5:1 TURNDOWN MINIMUM.
12. STAINLESS STEEL HEATING HEAT EXCHANGER.
13. DEMAND CONTROL VENTILATION AND REMOTE MOUNTED CO2 DUCT SENSOR.
14. PROVIDE GAS PRESSURE REGULATORS, 2 PSIG INPUT.
15. STAINLESS STEEL DRAIN PAN.
16. VARIABLE SPEED OR DIGITAL SCROLL COMPRESSORS, 2 MINIMUM.
17. VIBRATION ISOLATION RAILS.

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GHC SAUK CLINIC REMODEL PHASE 1
8202 Excelsior Dr, Madison, WI 53717

GROUP HEALTH COOPERATIVE
1265 JOHN Q HAMMONS DRIVE
MADISON, WI

ISSUE DATES:

Issue	Description	Date
RFP1	RTU RFP	02-22-19

Sheet Title
MECHANICAL SCHEDULES

Project Number: 20180640

Sheet Number
M701

2/22/2019 10:24:48 AM

ATTACHMENT B – RESERVED

ATTACHMENT C

(If Addendums exist for this project, please sign and date and send with your Proposal. Do not submit this form if there are no addendums issued.)

The undersigned acknowledges receipt of the following addendum:

Addendum #1 _____ Initials _____

Addendum #2 _____ Initials _____

Addendum #3 _____ Initials _____

Addendum #4 _____ Initials _____

ATTACHMENT D – RESERVED

ATTACHMENT E – Additional Contract Clauses

(Potential contractors are required to meet the following contract obligations
in addition to the GHC-SCW contract.)

The Contractor and any sub-contractors acquired to provide services arising out of this RFP agree to abide by the following clauses and requirements:

1. **Disadvantaged Business Enterprises (DBE) and Labor Surplus Firms.** The following affirmative steps should be taken to ensure small businesses, minority and women's owned businesses (DBEs), and labor surplus area firms (LSA) are used when possible:
    a. Place DBEs/LSAs on solicitation lists and solicit to them when they are a potential source.
    b. Use the services of organizations such as the Small Business Administration and the Minority Business Development Agency.
    c. When economically feasible, divide total requirements into smaller tasks or quantities and establish delivery schedules.
    d. Require subcontractors to follow these affirmative steps.

2. **Suspension and Debarment**.
    a. This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such the Contractor is required, and will, verify that neither Contractor, its principals (defined at 2 C.F.R. § 180.995), nor its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
    b. The Contractor will comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
    c. Contractor's certification is a material representation of fact relied upon by the City. If it is later determined that the Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State of Wisconsin, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
    d. The Contractor agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C throughout the period this Agreement. The Contractor further agrees to include a provision requiring such compliance in its lower-tier covered transactions.

3. **Access to Records**. The following access to records requirements apply to this contract:
    a. The Contractor agrees to provide GHC-SCW, the State, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
    b. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

c. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

4. **DHS Seals, Logos, and Flags**. The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

5. **Compliance with Federal Law, Regulations, and Executive Orders**. The Contractor acknowledges that FEMA financial assistance will be used to fund the contract only. The Contractor will comply will all applicable federal law, regulations, executive orders, FEMA policies, procedures, and directives.

6. **No Obligation by Federal Government**. The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, Contractor, or any other party pertaining to any matter resulting from the contract.

7. **Program Fraud and False or Fraudulent Statements or Related Acts**. The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor actions pertaining to this Agreement.

8. **Procurement of Recovered Materials**. As required by federal program legislation, Contractor agrees to the following:
    a. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
        i. competitively within a timeframe providing for compliance with the contract performance schedule;
        ii. meeting contract performance requirements; or
        iii. at a reasonable price.
    b. Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

9. **Equal Employment Opportunity**. During the performance of this Agreement, the Contractor agrees as follows:
    a. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
    b. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

c. Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
d. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
e. Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
f. In the event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
g. The Contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event that Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

10. **Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended)**
    a. The Contractor certifies to GHC-SCW that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. The required Certification must be provided as an addendum to any Agreement arising from this procurement.
    b. Contractor will also ensure that each tier of subcontractor(s) shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures will be forwarded from tier-to-tier up to GHC-SCW.

11. **Compliance with the Contract Work Hours and Safety Standards Act**.
    a. Overtime requirements. The Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall not require nor permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless

such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

b. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, the Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

c. Withholding for unpaid wages and liquidated damages. GHC-SCW shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the *Contract Work Hours and Safety Standards Act*, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.

d. Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a) through (d) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (d) of this section.

12. **Clean Air Act and Federal Water Pollution Control Act**. As required by Federal program legislation: Contractor agrees to comply with the following federal requirements:

a. *Clean Air Act*.

i. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et seq.

ii. The Contractor agrees to report each violation to GHC-SCW and understands and agrees that GHC-SCW will, in turn, report each violation as required to assure notification to the State, the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

iii. The Contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

b. *Federal Water Pollution Control Act*

i. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

ii. The Contractor agrees to report each violation to GHC-SCW and understands and agrees that GHC-SCW will, in turn, report each violation as required to assure notification to the State, the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

iii. The Contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.